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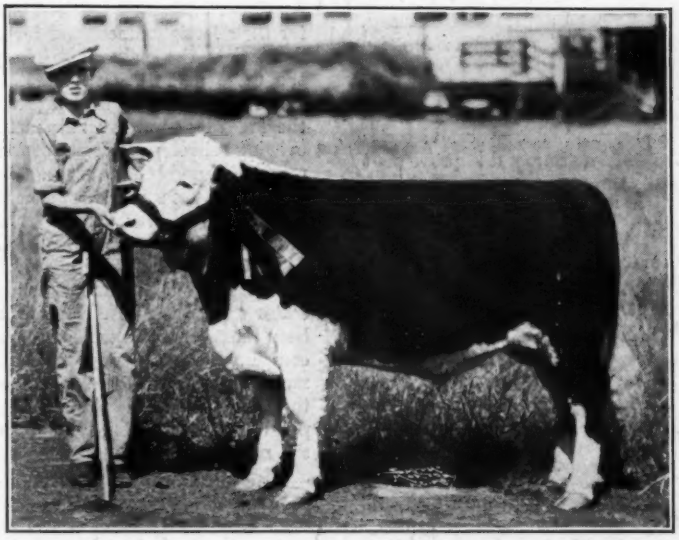
Agricultural Education



Lee Edward Lale, vocational student and F. F. A. of Odessa, Missouri, showing his Hereford calf which was champion of its breed and grand champion baby beef at the Mid-West Vocational Agriculture Livestock Show and Sale held at Kansas City, Missouri, September 18 and 19. Edward received a purebred Hereford heifer from E. F. Swinney, Hereford breeder of Kansas City, as an award for his success

Education through occupations combines within itself more of the factors conducive to learning than any other method. The occupation becomes the magnet which attracts information and the glue which makes it stick.—JOHN DEWEY.

EDITORIAL COMMENT

AGRICULTURAL EDUCATION

A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by the Meredith Publishing Company at Des Moines, Iowa.

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EDITOR'S REPORT

Agricultural Education Magazine—Dec. 12, 1930
A. V. A. Convention, Milwaukee, Wisconsin

WITH the movement for the magazine actively inaugurated at the 1928 spring conference of the North Central Region, Volume I, Number I appeared in January, 1929. Twenty-four monthly issues of *Agricultural Education* have now been mailed to subscribers.

This report is based upon the entire period of the life of the magazine and consists of two divisions. First, a statistical and informal account of progress to date; second a series of recommendations for the continuation and improvement of the publication.

Past

An effort has been made to present a picture of the character of the magazine content by means of the following data. It should be understood that there is unavoidable overlapping in some cases, but the figures are substantially correct.

Total columns of Professional Material	286
" " " F. F. A. material	205
" " " Methods material	115
" " " Farm Mechanics	107
" " " Evening Schools	91
" " " Supervised Practice	83
" " " Editorials	75
" " " Part-time schools	36
" " " Book Reviews	14
" " " Unclassified	42
Total columns printed	1,056

The above tabulation does not include the cover page and is based on a standard of three columns to the page. All issues have consisted of 16 pages, with the exception of the 20-page issue of December 1930.

A few more figures are of interest. The total number of articles published is 1,002 or an average of 42 an issue. Of this number, 103 can be definitely placed as contributions of vocational agriculture teachers and about 10 are from the hands of vocational agriculture students. There have been 248 pictures used, making an average of over 10 per issue.

That the magazine has been national in character can be attested by the study of state representation in terms of articles published. The following tabulation shows the contributions by states so far as such contributions could be localized. It will be seen that every state in the union plus the District of Columbia, Hawaii and the Phillipine Islands has been represented directly from one to thirty times. An average issue of the magazine would have included articles bearing directly upon situations in nine states.

Arkansas	9	Louisiana	1	Oklahoma	2
Alabama	11	Maryland	3	Oregon	4
Arizona	7	Maine	6	Ohio	17
California	13	Montana	9	Pennsylvania	5
Colorado	19	Michigan	4	Phillipines	2
Connecticut	7	Minnesota	10	Rhode Island	1
Delaware	6	Missouri	21	South Carolina	10
D. C.	18	Massachusetts	4	South Dakota	11
Florida	2	Mississippi	10	Texas	19
Georgia	19	Nebraska	13	Tennessee	9
Hawaii	3	Nevada	8	Utah	5
Iowa	31	New Hampshire	3	Vermont	1
Illinois	18	New Jersey	16	Virginia	12
Idaho	1	New York	21	Washington	2
Indiana	10	North Dakota	7	West Virginia	4
Kansas	14	North Carolina	4	Wisconsin	16
Kentucky	11	New Mexico	5	Wyoming	5

The policies of the original Editing-Managing Board, Editor Hamlin and Business Manager Smith, have been continued in their essentials. These men deserve much praise for their farsightedness and for the hard work which they devoted to the magazine. The principal change involved the more definite departmentalization of the magazine. The departments are in charge of special editors and include the following: professional; methods; supervised practice; evening schools; part-time courses; Future Farmers; farm mechanics, and book reviews. The names of the editors may be found in the mast-head of the magazine. These men have co-operated faithfully and deserve the appreciation of those interested in the success of *Agricultural Education*.

The Meredith Publishing Company has more than fulfilled the promises made at the beginning. Mr. Kirk Fox, editor and Mr. M. A. Hunnicutt, business manager, have been most helpful, accommodating and encouraging. The company met the first year's deficit of $299 without a murmur and continued its offer for the coming year. In addition to all this, *Successful Farming* has placed $650 at the disposal of the Managing-Editing Board for use in improving the magazine. Vocational Agriculture owes much to the unselfish support of this company.

Agricultural Education has continued and increased its support and promotion of the Future Farmer movement. More column inches have been devoted specifically to F. F. A. than to any other one topic. A special reprint of the "Message to Future Farmer Presidents" was issued and paid for by *Agricultural Education*. Teacher and student contributions have been solicited and used whenever they were at all suitable. The starting point for the volume was changed to July 1 to be more in keeping with the working year of the vocational teacher. The quality of the print stock has been materially improved beginning with the November issue. Teacher trainers have been urged to encourage subscriptions by students in training and many have responded. The subscriptions have now reached a total of 3,600.

Future

The *Agricultural Education* magazine appears to have the approval and partial support of persons engaged in secondary vocational agricultural education. This implies that its present policies are satisfactory and should be continued.

There is a need, however, for increased support thru the medium of subscriptions. There are certain states which are apparently apathetic regarding the magazine and some means of stimulation must be found. This is primarily a

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Professional

The Means and Ends of Life

ARTHUR K. GETMAN, Chief Agricultural Education Bureau, New York

A. K. Getman

ONE cannot look back upon the achievements of our farm training program without a sense of pride at having some part in this nation wide project in education.

Many surveys are available to indicate the superior ability of vocationally trained farmers to secure economic gain. In fact, after taking due account of the selective process of education, the 100 percent to 1,000 percent increase in profits made by trained persons as compared with untrained persons attests in a high degree the effectiveness of our program. We have succeeded in equiping our pupils with an effective *means* for making a living. Better machines, better farms, better crops, better animals and selected markets combine to make increased profits for the trained worker.

Better means of making a living on the farm and elsewhere are the outcomes of a scientific age. Science has harnessed the powers of Nature to relieve man from relentless toil. Our modern inventions multiply handsomely our means for earning a livelihood. One wonders, however, if the improvement of the *means* has not far outstripped our improvement in our understanding of the *ends* of life. The phrase, "Farming is a means and a mode of living," is classic in our literature. Have we not stressed the improvement in the means of farm living while the mode of living or the ends of life have been left to shift for themselves?

In this brief statement I suggest that there are at least three ways in which teachers of agriculture may guide their pupils to a better appreciation of the ends of life. We may guide them in their reading, we may instruct them in their relations with each other, and finally we may encourage them to get in tune with Nature, with whose laws they must cooperate, both as a means and as an end in life.

First, consider good reading. We shall agree I think that one of the surest and most delightful ways of building a personality is to become familiar with the writings of great thinkers. We now know that a personality is made up of many traits. The traits of loyalty and trustworthiness and the freedom from jealousy and envy are illustrations. We need to strengthen the former and eradicate the latter. Good reading brings us face to face with characters which ebb and flow between these extremes. Back thru the generations these traits have guided the thoughts and motives of men. One of the Greek writers, for example, 25 centuries ago declared that few men have the natural strength to honor a friend's success without envy.

Today we must know how to deal wisely with the other fellow. A knowledge of human nature, knowing how to meet business associates easily, sizing up the other fellow, leading a group, being a good soldier in an organization —these are qualities which are much more essential today than a generation ago. One of the surest ways available to the student to acquire such qualities is thru a knowledge of the best poetry, fiction, essays, historic novels, drama and the like.

Too much of the reading of the average vocational pupil centers on technical and work-a-day problems. His life experience here and now would be much richer and much happier, if, in addition to the work in the English class he were brought face to face with well selected readings. Class reports on readings, special young farmer programs, group pageants and an occasional half period devoted to some outstanding contribution which will enrich attitudes will be helpful. Let us remember that human nature depicted in literature is relatively constant while the recommended technical procedure of today may give way to a new scientific method tomorrow.

Secondly, a lad of 18 who enters farming today faces social and co-operative problems many-fold more complex than those faced by his father. Highly specialized agriculture has brought an increased dependence of the farmer upon his neighbors and associates. This is true not only in improved means of livelihood but likewise in a richer enjoyment in farming as a mode of living.

Character is largely determined by our relations with our fellows. Both within and without the school it is our privilege and opportunity to insure the pupils practice of those ideals which constitute sound character. Trustworthiness, courtesy, reliability, loyalty, friendliness, co-operativeness and the like, when set as ideals and when practiced contribute richly in character building. One is deeply impressed with the declarations of our boys who speak in public meetings regarding the chance which a Future Farmer organization affords them to enrich the characters of members. When the goal of sound character can be chosen by our lads as an end in life their associations with their friends and neighbors will bring a new kind of joy and satisfaction. Class studies of the lives of outstanding leaders who have exhibited desired traits of character is a practical way of guiding pupils to a keener understanding of this end in life. Good stories found in newspapers and magazines may be read and discussed. The development of pride in putting the common good of the group above selfish gain will do much to strengthen the idea of building wholesome relations with their fellows.

Education raises persons above their surroundings and makes them masters of themselves, rather than merely being creatures of circumstances. It is not enough merely to know how to get a living; it is necessary to know how to live.—Calvin Coolidge.

Lastly, it is believed that a deliberate attempt to get our boys in tune with Nature and her laws will do much to center our thought on the deeper purposes of life. The farmer, more than any other type of citizen is close to Nature. His means of life are dependent upon a wise use of Nature's processes. After all, science is merely the accumulated knowledge which we have of the world of Nature and of man himself. Osmosis, photosynethsis, nitrification, carbonization, fixation, ammonification, hydrolysis, and the like are familiar terms to the student of agriculture. Behind such phoenomina, however, are to be found some of the most thrilling experiences of life. The mystery of Nature's ways challenges the interest and admiration of most normal boys.

Note the life in a colony of bees or an ant hill. These creatures put to shame some of our efforts to live for a common purpose. Consider the relative strength of insects. It is said that if man had the relative strength of a flea he could jump over the Woolworth building, or if he had the power of an ant he could carry a one-ton truck to the top of Pikes Peak. Then, take account of the expanse of space, as revealed by the distance of stars. Most stars are hundreds of millions of light years away. When we consider that light travels at the rate of 186,000 miles per second we are appalled at the tremendous distances. Now, turn to the opposite extreme of size in particles of matter. Molecules, atoms, and electrons reach a minuteness that staggers the imagination. In the light of such observations one grasps the vastness, complexity and mystery of Nature.

One's understanding and appreciation of the real ends and purposes of life seem to be strengthened by a knowledge of Nature's mysteries. Such questions as, "Whence came life?" "When did time begin?" "How can we fit best into the Eternal plan?", still puzzle us. Each new discovery in science explains some unsolved mystery, but at the same time opens up new mysteries pointing to a universe, even more marvelous than we had at first supposed. Living in a world in which there were no mysteries would be dull indeed. Mystery strengthens our hope and our zeal. Getting in tune with Nature as we know her and struggling to keep in tune with her unsolved

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Standards in Farming for Agriculture Students

E. C. MAGILL,
Teacher Trainer,
Blacksburg, Virginia

VOCATIONAL education demands "doing" ability. Supervised farming by vocational students is the device developed to permit of doing ability in farming. But there are many degrees of doing ability varying from the labored efforts of an amateur or beginner to the efficient, quick, and sure performance of the intelligent experienced farmer. Doing ability in vocational agriculture is expected to fall somewhere between these two extremes. But just what degree of excellence shall be expected of any one student or any group of students? The answer is, set a standard.

What Are Standards?

A standard therefore is the measure or the model which should be attained in the supervised farming. First, it has the idea of performance being "elevated" above a certain degree of efficiency; of improved efficiency. Second, it is a thing readily attainable—not out of reach of the average student. Third, standard implies it has been set by "authority, custom, or general consent" —that is it should be founded on fact and backed by good reason.

Why Necessary?

It is necessary to set-up the "specifications" of attainment or performance so clearly between student and teacher that the pupil himself will recognize when he is doing good farming. To go much beyond the point of the standard set may be wasted effort, especially if that time could have been better employed at other farming. To fail to attain the standard means that the pupil lacks efficiency needed in good farming. The instructor cannot be present with the boy for much of his farming whether operative or managerial. Standards established in advance are clear cut "specifications" as to the degree of proficiency to be attained in the farming practice. They are so important that standards are to be written into the record for every job and supplementary practice planned—*and all are to be planned* where there is any change in practice from that which the student knows.

What Are Some of the Standards In Use?

Here is a good example of standards as to *labor requirements* and *cost of production* worked out by the classes of C. E. Richards, Mt. Jackson, and based on the records of students of previous years.

CORN

	Hours
1. Selecting seed corn—40 acres, per A.	1
2. Harvesting—cut one acre per day	10
Shocking—(1¼ A. per day)	12
3. Plowing	10
4. Testing seed	1.5
5. Fertilizing (top dress only as rest in planting)	2
6. Preparing seed bed (once in 1.2 hours, 3 times)	3.6
7. Planting	1.5
8. Cultivating (1 A. in 2 hours, 4 times)	10
9. Keeping records	2.5
10. Thinning	3.

Standards for enterprise raise 40 bushels per acre for a cost not to exceed $18.80, or 47 cents a bushel in a normal year.

Here are standards worked out by the classes of E. B. Craun, Weyer's Cave, which might be called *Standards for Performance or Practice*. His pupils also attached the values on which they would be graded for their supervised farm work.

PORK

	Points Allowed on Student Scoring Device
1. Purebred or cross bred (pure)	100
2. Feed a balanced ration suitable for age	100
3. Provide hog pasture	50
4. Confine hogs when fattening	50
5. Provide a comfortable and sanitary pen	50
6. Marked at 150 to 200 at 8 months of age	50
7. Complete and accurate records	50
8. Produce pork at cost of not more than 8 cents a pound	50
Total Points Allowed	500

POULTRY

1. Standard bred	75
2. Feeding laying mash all the year	75
3. Providing warm, well ventilated house	50
4. Culling all time and systematically in August and September	50
5. Providing pure water all time and warm water in cold weather.	25
6. Providing oyster shell and grit	25
7. Treat for mites and lice	25
8. Keeping house clean and sanitary	25
9. Keeping egg record and determine rate of production	50
10. Keep cost accounts and determine profits	100
Total Points Allowed	500

Thus standards may be in terms of cost, profit, amount of labor, quality, the degree to which a practice is to be followed, yields, and scope.

How Shall Standards be Set?

They should be the result naturally of any lesson. If a hen house is to be built, certain standards can be set as its efficiency, its cost and the labor required. If it is culling fowls, standards should result as to the time required and efficiency as determined by change in eggs laid. Students should participate in setting standards as they are to use them. The standards should not be mere guesses but the result of careful study and facts secured from experiment station findings, local surveys, and record books of previous years. The standard should be set above that which is attained by the average farmer—rather it should be that standard attained by the best 10 to 25 percent of the farmers.

A vocational department may have standards for the farming of all of the students or they may be set by the class being uniform for all students. Such standards however are imperfect for the individual. If a student has good fertile bottom land and is growing 10 acres, his standard as to yield might well be 50 bushels. For one of his classmates a standard of 35 bushels might be just as high as for the first student. The latter student may have poorer land, sloping and only four acres—and the influence of these factors could never be fully overcome. Therefore farming standards should be based upon the individual and his own farm situation. It is a specific situation—not a general one.

WE LIKE THIS

The writer is so favorably impressed with the growing value of our professional periodical "Agricultural Education" that he cannot resist the temptation of asking "Are you reading it?" If you are not a subscriber, borrow, beg, or buy, the October issue; it will be worth your effort in itself, and will also serve as a sample of the product. If you are a subscriber, don't miss something worthwhile by allowing it to become lost among those other pamphlets which most of us have a habit of laying aside to be read some other day, a day that frequently never arrives.—B. C. Lawson, Illinois.

Vocational Agriculture Education vs, Trial and Error

C. B. GENTRY,
State Supervisor, Vocational Education in Agriculture, Connecticut

VOCATIONAL Education is education.

Education in agriculture implies changes in people primarily and in farming secondarily. Progressive changes in farming will eventually result from and may be one measure of success in vocational education.

The changes we intend to make in people are changes in abilities. A boy comes under our direction without the ability to tie a slip knot. Soon he can do it in four seconds with his eyes shut. He has a new ability.

A boy comes under our direction with no ability or a hazy notion of balancing a ration for a dairy cow giving 40 pounds of 3½ percent milk daily in the third week of normal lactation where the farm has available good silage and good well cured alfalfa hay but where all other feeds must be purchased. Milk can be sold for 8 cents a quart net. Eventually the boy acquires the ability or abilities necessary to do this job for the particular cow—season, price of feed, price of milk and other factors considered. In addition he acquires this connection and in similar work done somewhat late, principles, laws, and other kinds of knowledge which will enable him to balance rations for cows under varying conditions occurring in his particular community.

A boy comes under our direction with little ability to manage a diversified farm but before he is 25 or 30 years of age he may with proper teaching and directed pick-up experience gain the abilities necessary to conduct such an intricate and complicated enterprise quite successfully.

A boy may come under our direction with poor standards, ideals and habits of workmanship and an attitude that there is not much to farming or farm life anyway. Gradually he comes to have the "pride of a skilled worker in his processes and products; a regard for his occupation as a calling; a consciousness of service to society by means of his occupation; and an appreciation and enjoyment of the people, activities and living conditions encountered in the pursuit of his occupation."

Teaching consists in ecting drilearning. Directed learning means *stimulation* to learn and *guidance* in learning.

A boy picks up skills, knowledge and attitudes. He picks up many before he comes to us at 14 or 16 or 30 years of age. If we leave him alone he will pick up enough by 35 to 45 years of age to succeed in a diversified farming vocation. If we properly stimulate and guide him however he will go thru the processes much faster. He may also learn progressive things under our stimulation and guidance which he never would have stumbled upon or been impelled to learn thru trial and error means during the 35 or 45 years but mostly he will learn under our stimulation and direction things which eventually he would have picked up any way.

What a wasteful process to both the individual and society pick-up education in farming is! Thirty-five to forty-five years of a man's life gone before he has mastered a farming vocation in addition to the waste in material things and the

heart pangs and lack of satisfactions due to the operation of the ruthless action of trial and error methods of learning! True, when he has attained abilities in this way he has them. There are scars of failures and satisfactions of successes all along the way which will not let him forget. It is not economical or sensible or even humane to allow farmers to learn a vocation in farming by these crude methods.

It will be possible by means of the proper kinds and amounts of vocational education, including pick-up experience and opportunity for participation which a boy will have on the home farm or working as a hired man and participating in the activities of a farming community *to reduce the number of trials, eliminate much of the error* and *thus shorten the period of time necessary to attain vocational competency from ten to twenty years.* I believe that it will be both possible and practicable by means of proper and efficient vocational education to guide and stimulate the learning of boys between the ages of 14 and 25 or 30 years so that they will have the amount and kind of vocational competency that they would have had by pick-up means at 35 or in many cases 45 years of age. This, I contend, should be our aim in vocational education in agriculture. Will our present organization, personnel and methods of attack attain the object outlined above? We have made much progress but my guess is that on the average we still have at least nine-tenths of the distance to go.

Are We Thinking Straight in Regard to Objectives?

B. C. LAWSON, Illinois

LET'S consider again the objectives of vocational agriculture. This aspect of instruction has been stressed often, yet when we realize that all our present and future achievements will be greatly influenced by the objectives to which we cling it seems that we are not likely to give them too much attention. These objectives should be of such nature that the outcomes of our teaching activities will be effective in a worthwhile way, not only at present, but also when our boys become men and vocational agriculture faces a more severe reckoning.

The viewpoint to be expressed here is that the final and true objective of instructions in vocational agriculture should be changes in controls of conduct on the part of human beings. Discussions of vocational agriculture frequently seem to stress tons of limestone, acres of legumes, eggs per hen, and the like as objectives, while the point of view taken here refers to human abilities as the objectives. These abilities are often classified as knowledges, skills, and attitudes. The true purpose of all teaching, vocational or general, is to stimulate and direct the acquirement of worthy controls of conduct on the part of human beings. All those more tangible and concrete aspects of agricultural education, i.e., acres, yields, tons of limestone—often referred to as objectives, are closely related to the true objectives—i.e., human abilities—but they are means to an end, steps on the way, to the development of human controls of conduct. These concrete aspects are important factors, they are necessary for "farm practice," they enable us to make our instruction vocational and they are in conformity with "seeing is believing." But are they the true objectives of education?

It seems that holding to human abilities as the real objectives of vocational agriculture is necessary in order that the "teacher-pupil" relationship may not degenerate into a "foreman-laborer" relationship where activities are governed by the aim of producing approved observable products while what the student learns becomes at best merely incidental and probably accidental.

It seems that holding to human abilities as the true objectives is necessary in order that instruction in vocational agriculture may result not only in an immediate adaptation to present farm conditions, but also in an adaptability on the part of the individual which will function in the future. The boy should acquire controls of conduct that will enable him not only to farm with considerable success and satisfaction "now and on this farm" but also on his farm of the future. And never was it more clear than today that farming is not a static vocation. We are seeing with our own eyes marked changes and adjustments being brought about by economic and social pressure.

Briefly then the true objectives of vocational agriculture are human abilities, while the more concrete and tangible aspects of instruction are important means of developing the human abilities. From the point of view of measurement the concrete factors may be at times an indirect indication of the extent to which these appropriate controls of conduct have been acquired.

What I Hope to Accomplish Thru Teaching Vocational Agriculture

G. W. McFARLAND,
Senior Student,
Iowa State College

ONE of my goals in teaching agriculture shall be to find or devise programs to teach which will not defeat themselves when broadly adopted. By that I mean ideas or methods which are just as profitable after adoption by most of the farmers as when initiated. Too many of the programs recommended to agriculture in the past have been profitable only when used by a comparatively few farmers. When universally applied the resulting increased production has depressed the markets for products affected and wiped out all of the original advantages sometimes leaving the industry actually poorer.

In choosing subject matter consistent with this goal I shall stress cost reduction thru increased efficiency by methods not calculated to increase total production, thru reduction or utilization of wastes, and by savings affected thru cooperative effort.

I shall also emphasize the managerial responsibilities and opportunities of a farm operator in marketing farm products. Under marketing I include the selection of commodities to produce for a market, the best time to go to market based on past market trends, the preparation of the commodity, and the actual machinery involved in the selling process.

As another phase of the managerial program I shall try to give students the concept of a farm business as an investment not only of labor but also of money which is justified only on the basis of returns received. Also connected with this I shall try to show the desirability of a definite financial policy for farm investments and suggest some of the more successful ones being used.

Perhaps there might also be some opportunities for producing for home consumption goods now purchased from outside and thus make the available farm income satisfy more wants. However, on the whole, I do not at present see any significant possibilities in this direction as most farmers have a vegetable garden, butcher hogs, and sometimes beef, use wood for fuel when it is convenient. Probably a very small percentage of farms have fruit but horticulturists do not admit that farm orchards can be made to produce fruit as cheap as it is available commercially.

Besides economic goals I think that there are social ideals and personal standards to be developed that are equally if not more important than the former. A farm boy of high school age has already served an apprenticeship that gives him background vocationally which most urban boys have to secure after finishing high school. In addition to his home training there are extension programs of education along technical lines and a comprehensive array of farm publications of more or less value. In view of the wealth of other sources of vocational education available to the farm boy I believe I should be justified in spending time creating an interest and appreciation of farming as an occupation, and a desire within the student to be a constructive leader in rural society.

Along with leadership I shall try to develop a spirit of co-operation based on the advantages which co-operative effort may bring to community and to an individual. I shall also try to show the more obvious procedures which should be employed in organizing or managing a co-operative enterprise to insure its success; perhaps it would be more accurate to say to prevent the more common failures.

The foregoing objectives are economical and social means to an end. That end is a higher rural standard of living. From past experience we know that the mere possession of wealth does not nearly always result in a higher standard of living. For this reason I shall try to establish worthwhile ideals of living standards, and show, as far as possible, the more effective and desirable ways of utilizing the income and labor available to secure the most satisfaction from farm life.

In teaching agricultural subjects I shall insist upon the same standards of English, mathematics, spelling, and so forth, as required in other high school subjects. I believe that there are many opportunities to make a practical application of both fundamental and cultural subject matter, and that the ideals set up with respect to these general education subjects in connection with the vocational training will be a powerful influence in determining the social behavior of the individual after he leaves school.

"The school of experience does not offer degrees, still it is always crowded because it is contiuously offering new and attractive post graduate courses."

Supervised Practice

Teaching Boys to Think

G. A. SCHMIDT, Teacher Trainer in Agriculture, Colorado Agricultural College

G. A. Schmidt

IN THE 1930 October number of *Agricultural Education* Dr. Charles R. Allen, Educational Consultant of the Federal Board for Vocational Education, has an article entitled, "Getting Educational Value Out of Supervised Practice." The following sentence emphasizes an important point Dr. Allen has made in that article: "Education is the ability to deal successfully with situations you have to deal with; consequently the degree to which the supervised project in agriculture serves its educational purpose is the degree to which it gives the boy an opportunity to deal with problems with which he will meet as a farm manager, and gives him an opportunity to wrestle with them."

An individual learns to think by thinking and not by memorizing and reciting what someone else has thought. Actual practice in thinking by an individual, himself, is necessary if that individual wishes to improve his thinking ability. However, in this thinking practice two important conditions must be recognized. First, the more closely the *kinds of problems used* for developing thinking ability in the training period resemble the kinds of problems occurring in the subsequent occupation to be followed by the individual who is being trained to think, the greater will be the transfer from the learning stage to the actual working stage. Second, not only should there be a similarity of the kinds of problems used for developing thinking ability in the training stage with those of the actual working stage, but, more important still, *the method of thinking* must also be the same in the two stages, in order to obtain the greatest transfer of thinking ability.

The writer submits here two illustrations which may serve teachers of vocational agriculture as guides in teaching boys in vocational agriculture classes to think. The first illustration is that of a series of steps involved in good thinking. The second is an application of these steps to the solution of a practical farm management problem.

Steps Involved in Constructive Thinking

Constructive thinking involves the following steps:

1. *Clearly and definitely stating the decision or decisions that need to be made.* This is simply sensing or apprehending the problem or difficulty. One cannot solve any problem or decide any question until he first clearly recognizes the problem.

2. *Locating or identifying the factors influencing or conditioning the decision or decisions.* A factor is an essential element, condition or influence that contributes to produce a result. Everything one decides to do is conditioned by one or more important influences and these influences are the factors of the decision. Identifying the factors influencing a decision is a process of analysis. It is simply a matter of bringing to light the important things at the bottom of a situation or problem. It may be regarded as a matter of locating and defining the difficulty.

3. *Determining the kind of information needed to weigh the factors.* There are certain facts which bear upon each factor. The right kind of facts or information must be gathered before any factors can be weighed. Determining the kind of information needed to weigh factors is again a problem of analysis.

4. *Assembling the information that is needed to weigh the factors.* This is simply a matter of going to various sources of information and obtaining the needed facts. One cannot weigh any factor until he has the right information bearing upon it. This step involves resourcefulness in getting facts and in selecting facts.

5. *Weighing or evaluating the factors.* This is entirely a mental activity. When the factors are being evaluated one is trying out possible solutions or is making a comparison of relative values. This step is sometimes called "trying out the solutions in thought."

6. *Making the final decision.* This is simply a matter of drawing a final conclusion as a result of weighing the factors. It means coming to a conclusive determination of what action will be followed. It is the formulation of a plan of action.

7. *Executing and testing the plan.* This means putting the plans into operation and observing the results. It usually implies further observation and experimentation leading to the acceptance or rejection of the plan or conclusive belief or disbelief in it.

Application of the Steps to the Solution of a Problem

The following may be regarded as an example illustrating the steps involved in constructive thinking as just discussed: A boy has decided upon a commercial egg-laying project consisting of a hundred pullets. He wants to select the best breed of poultry for his project. He must make a decision on this problem.

The first step in the thinking process is to state the question which he must decide, which may be: "What breed of poultry shall I select?"

The second step in the thinking process is to identify the factors of this decision. These may be:

1. Breeds adaptable
2. Egg yields
3. Economy of production
4. Climate
5. Cost of stock

To evaluate these factors he needs specific information. *The third step* in the thinking process will be determining the information needed to evaluate the factors. This information may be as follows:

1. The breeds of poultry best adapted to commercial egg production.
2. The comparative egg yields of these breeds.
3. The cost of producing a dozen of eggs from these breeds.
4. The adaptability of these breeds to the climate of the community.
5. The cost of available stock.

The fourth step in the thinking process is to get the above information from reliable sources. This may be as follows:

1. The Leghorns, Minorcas and Anconas are best adapted to commercial egg production.
2. These three breeds vary very little in egg production.
3. The cost of producing a dozen of eggs from these three breeds varies very little.
4. The Leghorns and Anconas are best adapted to the climate.
5. Leghorn pullets can be purchased 50 cents cheaper than Anconas and 30 cents cheaper than Minorcas.

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PROJECT RECORD KEEPING

We have recently had a good deal of delving into project record keeping. The gist of the findings to date is that we have made almost no progress in this respect since 1917, that project records generally are grossly inaccurate, incomplete, and misleading. Some gains have been made in certain states in correcting these deficiencies.

But the delving seems not yet to have gone deeply enough. We are still assuming that the kind of records decided upon in 1917 is yet the right kind in spite of the fact that almost none of our boys can keep them and in the face of the admission that they are seldom used for any good purpose if kept.

It would seem that if even the few of our students who have kept good records had profited greatly from their record keeping they would have passed on their enthusiasm for records to others so that eventually it would have become relatively easy to secure desirable results. The root of the evil appears to be that records of the sort we have insisted upon have served no very useful purpose in guiding the further farming activities of our students, the one person for which records would be kept.

We have not yet awakened to the fact that cost accounts of the type we have insisted upon have been discredited among many of the farm accounting experts for use with adult farmers because they are so difficult to keep with any accuracy and because often they either fail to serve at all as a guide to further action or they actually misdirect. Some of the newer thoughts along these lines ought to receive our serious consideration.

In our present impasse we are neither calling for records of significance to boys in their project programs nor for records suited to adult farmers.
—H. M. H.

Part-time Schools

How to Organize and Conduct a Part Time Class

A Good Teacher, Somewhere, U. S. A.

PART-TIME work is a comparatively new development in most Smith-Hughes agricultural departments. Because of this there is some difficulty in establishing the work where an instructor has had little or no experience in organizing and teaching such a class.

In order to do any new job and particularly part-time work, the instructor should be sold on the idea first and then make a definite plan of organization. Having done this, the hardest job is over.

Make a survey of your community with the idea of listing as many farm boys between the ages of 16 and 22 as you can. List them as follows: Those who have finished high school; those who do not or have not attended high school; those who are in high school, but who are not available for all day classes; high school graduates who have taken agriculture.

In making up this list you will find that it will be of considerable size and that will prove to you that there is plenty of opportunity for service in this field. I have found that as soon as an instructor realizes the opportunity for the work he is sold to it.

If you can get a group numbering from eight to sixteen boys into a class you will have enough, especially for your first class.

There are a number of ways to make contact with boys to interest them in this work. It is possible to make your survey while making your contacts and do both jobs at the same time.

The best single agent I can name is that of your all day classes. If they are sold to vocational agriculture, they will spread the gospel faster than you can. With their aid you can make a list of boys who are their neighbors and also of the older boys in their own families. Have your day students interview these part-time prospects for you.

Newspaper stories in your local paper starting a few weeks before you wish your class to begin are helpful. Stress the points that the instruction is free and practical. Name some jobs which will be taken up to prove this.

Attend meetings of community clubs and other farm organizations such as the Grange, Farmers Union, and so on, and acquaint them with your work. Perhaps some of the members there have sons or neighbors who could be interested.

Take one of your all day class boys or better yet an influential prospective part-time student with you and visit prospects at their homes to tell them of the new class. Be sure to let the boy with you do some talking, mentioning that he is enrolling and what he expects to receive from it.

This year another method that I used was to interest the principal of a neighboring small high school. No agriculture is taught in that school, hence I have eight of his students in my part-time class.

Plan an interesting first meeting when each boy has some opportunity to take part. This will tend to make him more interested and help him feel more at home.

In registering the boys I have them list their names, ages, mailing addresses, and phone numbers. I leave for the group to decide the course I am to teach and then I plan to give each student a comprehensive idea as to what it shall include. My experience has been that it is best to have all of the boys agree on only one subject for instruction. It is too difficult to teach two or three different subjects within one group of boys. Effort should be made not to choose too broad a subject.

I put my part-time work on the definite requirement that each boy carry a project similar to the day class students. This has not been difficult, however, for only farm boys are in the class and they are easily sold to the project work. Mention of successful day students' projects usually will do this. Most of the part-time students have already learned of this work.

I plan to give these projects the same supervision as the day class projects and to visit each one whenever necessary. A part of the class meetings is spent in discussing the projects, particularly in the keeping of project records.

The time for meeting the group presents a difficult problem. However, you may have to meet during the time most convenient to the majority of the group or use an alternating schedule. The length of meetings, their frequency, and number also should be definitely arranged.

Without going too much into detail, this is the set-up I should advise in starting part-time work. Much more could be said on the subject, but after all, I believe that any ambitious instructor who once "gets his feet wet" can easily work out a satisfactory and suitable program.

Young Farmers Go A-Sparkin'

F. J. RUBLE,
Instructon in Vocational Agriculture,
Grove City, Ohio

FORTY-TWO young farmers in the Grove City, Ohio, community have been attending the short course in rural electrification meeting twice each week during November and December. An average attendance of thirty-one for twelve meetings is a fair indication of the interest in the course. The desire for this type of instruction this year is prompted by an immediate need since power lines are being built thru the community, bringing electrical service to the farms.

Generation, distribution and utilization thru lighting, heating appliances and motors have been considered with reference to farm situations. Practical instruction in wiring out buildings and making minor repairs has been given in addition to information that will better enable the young men to use electricity efficiently and economically on their home farms. Appropriate technical information has been carefully recorded for future reference. Copies of the national code book have been distributed and studied. Instruction was given by Mr. B. P. Hess of the Ohio State University with local arrangements and supervision under the direction of the instructor in agriculture.

The picture shows part of the group meeting at the home of two of their members to wire the poultry house one Saturday afternoon. Several of these young men are planning to do small jobs of wiring, others to add to the electrical equipment on their home farms and to operate it more efficiently.

Ten of these young men have attended part-time courses in this department for the past seven years. The larger part of the group has attended one or more courses during the same period and are active members in the Grove City Young Men's Farming Club, which is reported to be the largest and most active club in the state.

The Grove City, Ohio, Part-time Class getting some pointers in rural electrification

Evening Schools

Evening Classes in Home Improvement

W. L. WALSH, Teacher of Agriculture, McKenzie, Alabama

A UNIT course in Home Improvement was taught to some 75 men and women of McKenzie Community enrolled in an evening school class during the past winter and spring. This proved to be one of the most interesting classes taught during my seven years in the community.

The class was organized in November and met two nights a week for about three months and then follow-up or seasonal lessons were given during the spring and summer months. Men, women and children attended the class but only adults were enrolled in the course. A large number of visitors including parents and their children attended these classes. Some members drove as far as 10 miles to attend.

Interest in home improvement was developed by use of motion pictures, lantern slides, newspaper articles and use of outside speakers dealing with topics related to this subject. A news article about the class was published each week in local paper. A motion picture on "Home Is What You Make It" was shown at the organization meeting and it well pictured the needs for home improvement.

The following topics were taught in class during the course: 1. Importance or need for improving the home; 2. Why draw up plans for improving the home; 3. Types of landscape designs; 4. Grading, terracing and preparation for landscaping; 5. Preparing and planting the lawn; 6. Arranging the walks and drives; 7. Suitable background and framework plantings; 8. Foundation and border plantings; 9. Trees, shrubs and flowering plants; 10. Plant materials and planting; 11. Ornamental plantings; 12. The flower garden; 13. Classification of plants; 14. School ground and community improvements; 15. Inside improvements of the home; 16. Improving fences, outbuildings, and so on; 17. Two field trips to nurseries to study different plants and shrubs and to observe homes properly landscaped.

Several interesting evenings were spent in letting a member of the class bring a sketch of his plans to the meeting and getting the other members of the class to criticize and make suggestions for improvements. Several plans were handled in this way and improved on a great deal. During two of the class nights members brought in samples of all the natural shrubbery, plants, trees, and so on, they could find in the woods. This provided interesting illustrative material for the study of different plants.

A set of motion pictures or lantern slides related to topics under discussion were shown on the average of one night a week. Two outside state agricultural workers were brought in for talks on home improvement topics. One of these was a home economics specialist who talked mainly about the inside improvements of the home and was of special interest to the women members of the class.

"Home Improvement" was the name of a little mimeographed bulletin published once a week for the class. The purpose of this bulletin was to keep before the class the important things emphasized in class, to aid in review and for use as future reference. It also acted as a connecting link for members who found it necessary to miss a meeting night. New information and references pertaining to home improvement was included from time to time. It is being published from time to time during the summer to carry seasonal information to members of the class and also to tell something about what different members are doing in carrying out their plans. Announcements of meetings, personal mention items, and so on, are included and this has helped to hold up interest.

The women were the ones particularly interested at the beginning of the course and naturally they brought their husbands out to the meeting with them and by the end of the course many of the men were just as interested as the women. The men helped the women to make the plans and went to the woods and got natural shrubs to set out about the place. They helped to move things that were out of place.

Soon after the class in home improvement was organized noted changes began to take place about the homes in the community. Old fences were torn down, trash piles removed, dead trees and stumps taken up, old unsightly out buildings torn down, lawns were graded, walks and drives re-arranged, trees and natural shrubbery set out and many other things improved on. A community pride was developed and the class led in the raising of a $200 fund which was used to pay for the grading and leveling of the school campus in readiness for landscaping same. The class sponsored an all day working and sodded the campus with grass.

Supervised practice work with a class of this nature is very interesting. Many suggestions are needed to be given out at the home of the pupil. Numbers of questions will come up and can best be answered while out on the job. Each pupil keeps a record of labor and cash expenses and at the end of the year the value of the improvements will be estimated. Pictures were taken of the homes at the beginning of the class and other pictures will be made from time to time as noted improvements are made at the homes.

An adequate supply of pertinent facts is essential to evening school success —this is your responsibility.

Methods of Leading in Evening Schools

EARL F. VANDRELL,
Stoughton, Wisconsin

IN ITS broadest sense, agricultural education in a democracy should mean service to all of the people, both young and old, at all times and places where the need exists. It means giving to every man, woman, and child the assistance required as it is wanted and when it is wanted. It is upon this theory that I based my efforts in evening school work at Stoughton. During the past year I secured a total enrollment of over 250 in evening classes from an average radius of seven miles, with 75 percent attendance.

Two unit courses of 11 lessons each were given to each of five groups. Four of the groups met at rural schools and one of the classes was held in the city vocational school. My experience has led me to feel that where evening classes in agriculture are being conducted for the first time in a territory, meeting in the city high school, usually results in a small enrollment composed largely of the most progressive farmers of the community; hence not reaching that vast majority of folks who need education most. To be of utmost service in a community this latter group should not be neglected. It is true, they have the same privilege as the "select few" who are always in for anything, but the vocational agriculture teacher if he is to be of most service in his community must in some way reach all those who need help.

It is obvious that teaching a group of this sort with widely varying abilities is not an easy task and different methods of teaching should be used. There are many significant differences between adults and juveniles. Perhaps the first essential in teaching adults is a very thoro preparation. A carefully planned course of study adapted to actual local conditions is advisable but a teacher's preparation must go far beyond this. One must be an instructor and a teacher. They are different.

I have found that where classes are not made up of the "select few," the farmers actually crave information or direction about things; therefore some lecturing is necessary. Giving facts is instruction. Coupled closely with this is getting the learner to have a better understanding—a changed attitude—or a new insight on a matter—this is teaching. A man who disseminates facts may be an instructor, but **getting people to think is teaching.**

The conference method of teaching where the experiences and ideas are drawn from the group, and are discussed and evaluated, works well with

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A County Wide Evening School Program

Teachers and Students in Knox County, Ohio, Achieve Results Through Organization

JOHN B. McClelland, Assistant Supervisor of Vocational Agriculture, Ohio

ONE HUNDRED evening class students and fifty members of their families from five vocational agriculture departments in Knox County attended the third annual banquet of their county organization this fall, to honor five farmers for meritorious work.

All members of this county group, which is known as the Knox County Farm Improvement Club, belong to local evening classes which meet at high schools having vocational agriculture teachers for ten or more class sessions to discuss problems arising in connection with the study of some farm enterprise selected by the group. Once each year the county organization meets at Mt. Vernon, the county seat, for the purpose of awarding medals to members who make the most improvement in their farm business and homes during the year.

Another novel feature of the Knox County program is that only those farmers are enrolled in the county organization who agree to keep farm accounts and who agree to carry out during the year at least one improved practice in the enterprise studied.

This rule does not apply necessarily to all members of the local evening school groups or to part-time students. Yet it is of interest in this connection to note in the accompanying table, compiled from reports of the five teachers, that during the school year 1928 and 1929 when 152 persons attended three or more sessions of evening and part-time classes, 121 members planned a total of 524 definite improved practices while a total of 561 improved practices were completed.

The table shows that the average enrollment per school in part-time and evening courses in Knox County during the last three years (since the organization of the county group) is double the average of the preceding three years. While complete data on supervised practice and project work are not available for the first three years a remarkable gain in this important phase of the program is shown each year since the organization was formed.

In order to determine which members make the most improvement during the year a committee of two or three teachers including the local instructor, visits each farmer at the time of enrollment and makes a careful survey of his farming practices. As a result of the survey each student is given a numerical score based upon the Master Farmer Score Card. At the end of the year Mr. G. G. Everhart, one of the two County Extension Agents, and the local teacher again score every member selecting eighteen or twenty who have made the most improvement. These selected farmers are then visited by Mr. L. L. Rummell of Ohio Farmer, Mr. Guy Miller, extension specialist in farm management and Mr. Everhart who select three to five farmers each year for the award.

This year, for the first time since the Master Farmer movement started in Ohio five years ago, a Knox County farmer has been awarded the degree of Master Farmer. It is significant that J. W. Fravel, Knox County's first Master Farmer, has been an active member of the evening class Farm Improvement Club since its organization three years ago, and holds a medal awarded by the Club at its first annual meeting.

The picture of Mr. Fravel's Duroc Jersey hogs on alfalfa pasture illustrates the kind of improved practices that are being carried out on the whole farm. Since enrolling for evening class work and joining the county group only registered Duroc-Jerseys as shown in the illustration, have been kept on the farm. Pasturing hogs in alfalfa is a new practice also. The McLean County system of sanitation has been adopted within the past three years. The use of a self feeder and the trinity mixture contained in the feeder represent further improvements brought about since joining the evening class in vocational agriculture. All the livestock kept on the Fravel farm is now purebred and certified seed is used for all crops. Labor is saved at threshing time by using the silo filler as an elevator for oats as shown in the illustration.

The record made by F. C. Ball and Son who received one of the five medals awarded by the county group this year as summarized in the Ohio Farmer by Mr. Rummell, is typical of the records of farmers who have been honored by the group during the past three years. Mr. Rummell writes:

"F. C. Ball and Son have been making many improvements the last three years, such as use of lime; use of more and higher analysis fertilizer; changing their rotation to include more legumes; adding sweet clover, alfalfa and soybeans; increasing potato acreage; increasing their poultry business with addition of two new brooder houses and a laying house, finished with concrete floor this fall; hogs added to the farm program to utilize surplus corn; concrete floor to machinery shed and to garage; introduction of certified seed corn, wheat and potatoes; planting shrubbery about the grounds; adding a water system in the home; painting all small buildings; and adding a double disk, a potato digger and a corn binder to the farm equipment."

That improvements of this sort are being carried out in many farms in Knox County is shown by the following statement by Mr. Rummell who has recently traveled 3,000 miles over the whole state of Ohio making a survey of agricultural conditions. Mr. Rummell states, "Knox County has the most extensive farm improvement program carried on today that I know of any where in Ohio." He mentions that 100 evening class students are keeping farm accounts and lists many specific improvements being carried out by the 17 men he visited and by many other evening class students as well as by the five men who were awarded medals.

The Knox County organization has apparently been, at least in part, responsible for maintaining an average enrollment for school in part-time and evening courses during the last three years of double that of the preceding three years, and double that of the state average of the last three years. V. D. Burris who originated this plan left the county 18 months ago to accept another position. During the three years three new teachers, two of them inexperienced, have taken up work in the county, yet as shown by the table, there has been a small increase in enrollment and a remarkable increase each year in the number of students carrying supervised practice and project work. The examples of

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ENROLLMENT IN KNOX COUNTY, OHIO, PART-TIME AND EVENING COURSES, 1924 to 1930

Note: The figures given represent the total number of students who attended three or more sessions. Starred figures represent part-time courses in which a majority of those enrolled were 16 to 25 years of age.

	No county organization of students			County organization		
School year	1924 1925	1925 1926	1926 1927	1927 1928	1928 1929	1929 1930
School						
Centerburg	*11	*18	17	*19	16 15	36
Mt. Vernon	25	28	*19	16	29	28
Fredericktown	0	*12	*15	16 *15	31 *13	31 *21
Danville	No Dept.	No Dept.	*11	14 *40	9 *12	8 *14
Howard	No. Dept.	No. Dept.	* 7	21 *14	27	24
Total enrollment P. T. and Eve. courses	36	64	69	155	152	162
Average enrollment per department	12	22	14	31	30	32
Total persons carrying projects or other supervised practice work	Data not available			82	121	146
Total improved practices being carried	Data not available			341 completed	561 completed 524 planned	(Report) of completions not in 558 planned

Farm Mechanics

Suggestions for Part-time and Evening Classes Dealing With Tractors and Machinery

CLYDE WALKER, Assistant Professor of Agricultural Engineering, Oregon State College

RECENTLY the writer sent a letter to the leading tractor and implement companies asking for their opinion as to the things which the farmer needed most to know concerning the operation, care, and repair of farm implements and tractors. Replies were received from eight of the leading companies. As no questionnaire was sent with the letters the replies cannot very well be tabulated. However, the following quotations from the letters received include the principal suggestions made by these companies. In most cases these suggestions were received from the service managers and were based upon the experiences of the service men in their field work.

"We wish to state that it is our experience that in most cases difficulty is experienced with the tractors due to the farmer not knowing how to properly care for the tractor . . . the necessity of properly greasing and lubricating his tractor . . . care of the oil cleaning filter and the air cleaner. Then we would advise that you instruct the farmer as to how to make ordinary repairs, such as tightening up the connecting rods, fitting new rings, grinding valves, replacing valve seats, and so on. Of course, we realize the importance of teaching him also some of the managerial problems on the efficient use of machinery."

"I have found that if the . . . session is devoted to the practical work and to a follow-up lecture on the mechanical end of the tractor, the application of tractor work to different types of farming, and the different implements used in tractor farming, this covers the ground very nicely."

"General operation of tractors and threshers and combines is always interesting to the adult farmer, more so than repairing. In other words, most of them are more interested in obtaining information that will keep the tractor going, and for that reason we have always gone into the subject of lubrication of the engine and the transmission very thorely, carburetion and combustion, especially adjusting of carburetors and setting of heat control dampers in the manifold, and their effect on combustion. Air cleaners should receive very thoro consideration, as this is one of the most important accessories there is on a tractor or combine engine. . . Instruction on managerial problems and efficient operation is very good, as we find . . . farmers and operators do not give this phase of tractor and machine operation a single thought . . . Instruction pertaining to cylinder tooth and concave tooth adjustment, and proper adjustment of sieves and wind for cleaning is always interesting."

"Selection of the proper equipment for the farm should be included by all means. In this day of power machinery there is danger in over-equipping as well as under-equipping the farm. Considerable time might be spent in analyzing the requirements of each individual.

"The farmer . . . should not overload his tractor, . . . should use a good grade of oil and lots of it where needed, and when something about the machinery is not working right he should stop and fix it. Farmers in most cases do not give the care that they should in taking care of and operating their machinery."

"We suggest that the instruction be confined principally to the material contained in the instruction manuals of the different manufacturers. We have found that the average farmer does not read the instruction material furnished him thoroly, and that a great deal of good can be accomplished by renewing all of the instruction material dealing with the correct setting up of machines and the usual operating adjustment.

"It has been our experience that the average farmer requires education on only the finer points of tractor upkeep, such as bearing fitting, valve timing, ignition, and that he is perfectly capable of taking care of the balance of the machine. He needs education badly, however, in the hitching of plows, their operation, and also the hitching of various machines which are ordinarily hauled with the tractor, in business management, and in planning of the work the tractor must do in order to be a paying proposition."

". . . Should include at least some information as to the most efficient utilization of tractors and tractor equipment, in order to get the most work done at the lowest possible cost. It has been our experience during the past few years that the teaching of tractor operation and repairs no longer has the appeal that it did when tractors were more of a novelty, and before farmers were so familiar with the operation of automobile and stationary engines."

Of course, the final decision as to the content of the part time or evening course will depend upon the local needs and conditions but the above suggestions will give the instructor some general ideas of the possibilities for instruction in the tractor and implement field.

Efficient Shop Equipment Saves Money

H. T. WILLIS
Williamsburg, Kansas

I WAS pleased with the editor's justifiable disagreement a couple of months ago, in the shop department of this magazine, with statements made by a vocational agriculture teacher in regard to the separate tool room in Farm Mechanics shops, which were presided over by "flunkies." Such methods are from every angle far indeed from "actual farm conditions."

I am often impressed by another thing commonly outcropping in the conversation of fellow teachers. That thing is the type of electric grinding equipment provided for farm shops. There is no denying the rapid increase of rural electrification and the need for farm boys to be prepared to take advantage of such facilities. It does seem to me a mistake tho, for teachers to spend from $37.50 to $50 or more for grinding units with built in motors, expensive pedestals, and attachments which would never be used on the farm. It may be interesting to the readers of *Agricultural Education* to know what the practical experience of one teacher has been in reducing this cost and providing more flexible and practicable equipment.

In our shop we have built a grinding unit, on an ordinary fir 2 x 12 base, with one end hinged to lower out of the way when the homemade tool rest is not being used. On this base are mounted a small bench grinder wholesaling at about $6.50 with two grinding wheels, one being 1½" x 6 and the other a stone for grinding sickles. This price includes a simple rest for sickles and an attachment for grinding discs. We have further provided the following equipment, which is readily interchangeable. A 1¼" x 6 polishing wheel, which is coated with emery and glue by the boys; a 1¼" x 6 wire brush wheel which finds wide usefulness in polishing rusty tools and machinery parts; a finer ¾" wheel for chisels and a saw-gumming wheel completes the six way utility of the outfit.

With a long cord it can be moved to any part of the shop and even suspended from the ceiling when grinding discs on the axle. By removing the homemade wood pulley used with the bench grinder and putting on the smaller steel pulley which came with the motor, the same power plant can be used to drive a large grindstone, which we have rigged up on a 4 x 4 frame and skids, with jack pulleys under it to reduce the speed. We find such equipment far more useful than the more expensive built up units, and in addition the boys learn how easily such an outfit can be rigged up by actually building it in the shop. The grand total cost to us for this six job equipment; motor, base, pulleys, grinding head, wheels, belts, pulleys and a rack in the shop for neat display of wheels not in use was exactly $27.42.

Credit for many of the ideas is due Professor L. M. Roehl in his book, Fitting Farm Tools, and I am merely passing on to you the cost figures of this one instance.

Teaching Engine Work in Farm Shop

LEWIS HALVERSON
Vocational Agriculture Instructor,
Wakonda, South Dakota

WHILE some will not admit it, it is very evident that the "Engine Age" has come to stay. Along with it comes the necessity of a knowledge of engines and how they work. I know of no better place to teach this than in the farm shop course.

Last year it was decided that we should devote six weeks of our shop time so the study of engines. Each boy was required to obtain a small engine on which to work. At the beginning of the course we had 13 small engines ranging from one to four horse-power and one Ford engine. One of the small engines had been discarded supposedly never to run again.

As it is very important that no parts get lost or mixed with parts of another engine, which often happens in crowded quarters, each boy was supplied with a box in which to put his parts. The engines were taken apart and all parts cleaned and old worn ones replaced with new ones. Half of each shop period for six weeks was given over to the study of the parts of the engine so that each boy would know them and their purpose. The work on the engines gave the boys experience in grinding valves, cleaning out carbon, fitting piston rings, fitting bearings, adjusting timing gears, gas controls or carburetor, overhauling magnetos and fitting in a spark plug and coil system of ignition where the magneto or points were broken or worn out and could not be replaced.

There was only one engine that was not in good running order when the boys had finished and it was not worth what the repairs would have cost.

The boys are very much interested in this kind of work. However, we would emphasize the necessity of each boy's having an engine and that no more than two ever be allowed to work on one engine as there would be a tendency to waste time.

How We Made Our Money

E. A. RICE
Arendtsville, Pa.

WE MADE our money to finance the 7,100 mile F. F. A. tour as printed in the January *Agricultural Education* as follows:

In 1929 we rented three acres of ground a quarter of a mile from the school. The first year we had the use of it, the field was in sod. This we turned under and planted it in potatoes. The boys did all the work from plowing to the marketing of the crops. I happen to have a farm and with my tractor the boys plowed the ground and disked it. All other work was done with horses which the boys brought from their own farms.

The potatoes were planted with a single row planter, were cultivated with a single row walking cultivator until the last two cultivations, when a three-shovel walking one-horse cultivator was used. The crop was sprayed with a power sprayer. We used Bordeaux 4–4–50, and made four applications. The crop was dug and stored in a cellar. Here the boys graded the crop into two grades, and later marketed them locally, the most of them going to Gettysburg, our county seat.

The next year (1930) the same piece of ground was planted in beans for a canning company. Again the boys plowed it with the tractor. We were in a hurry to get it plowed and in order to speed things up, we hung lanterns on the tractor and plowed and worked until midnight. The beans were planted with a two-row corn planter fitted with bean rings, at the rate of one bushel to the acre. The crop was cultivated entirely with a riding cultivator. The beans were harvested by hand of course,and trucked to the cannery.

These group projects lend themselves to the teaching of agriculture to an extent, which I have never found in an individual project. Many of the boys worked with machinery which was not available on their own farms, and many learned to do farm operations which were not in vogue on their own farms. Above all these projects represent an efficient means of teaching co-operation to the fullest extent, thru investment, labor, and the rewards of labor.

The Means and Ends of Life

(Continued from page 119)

mysteries seems to be a valuable means of living in accordance with the true ends of life. "Man does not live by bread, alone," wrote an ancient writer in our most valued book. His completion of that truthful statement (Matt 4:4), suggests a way of life which is possible chiefly as we get in tune with Nature.

The writer is convinced that boys are vitally interested in both the means and ends of life. In the nursery rhyme, old Mother Hubbard went to her cupboard for a bone for her poor dog, but alas! the cupboard was bare. In their search for both the means and ends of life, are we safeguarding our boys so that they shall not find a bare cupboard? That corner of the cupboard which yields ample means for making a living seems well replenished. One suspects that the corner of our cupboard of experience available to them for enriching their ends in life does not enjoy the same degree of abundance.

Editor's Report

(Continued from page 118)

function of the business management, but has a bearing upon the ultimate solidity of the magazine.

The use of the $650 gift of *Successful Farming* has been determined by the Editing-Managing board. A portion of this money is to be used in meeting editorial expenses including stenographic help, stationary, postage, pictures and other necessary expenditures. Cost of better print stock and makeup and more and better pictures will also be met from this fund. Some of the money is to be used in distributing extra copies of the December issue among influential persons who should know more regarding vocational agriculture and to non-subscribing vocational teachers. The free subscription list is to be extended as well, so that the program of vocational agriculture may become more widely recognized. It is hoped that increased subscriptions and the Meredith money will permit an occasional enlarged issue such as that of December.

If *Agricultural Education* is to live and prosper, it must have (1) a continuous stream of contributions representing progressive thought in vocational agriculture (2) constructive criticism on its management (3) a mailing list of 4,500 paid subscribers.

The Managing-Editing board thanks you for your co-operation and encouragement and bespeaks your continued support.

(Signed) Sherman Dickinson,
Editor.

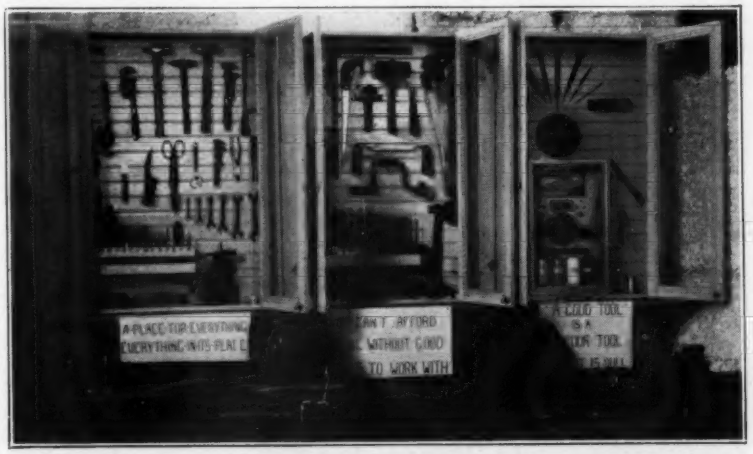
December 12, 1930.

Exhibits Help

C. H. WALL
Delhi, N. Y.

PERHAPS the readers of *Agricultural Education* would be interested in a picture of an exhibit which the New York State School of Agriculture at Delhi, New York, put on at the Walton Fair this fall.

The plan we are following is to stress some one particular department of the school each year. This year the major part of the exhibit was taken from the Farm Shop Department. A section of the regular school shop was taken down and set up at the fair. It included a work bench (built by the shop class), a case of carpenter tools and one of general repair tools which we recommend as regular farm equipment (these are used regularly by the boys in the school shop), and one case made up to create interest in the sharpening and better care of tools. In the teaching program at the school, projects are chosen which will create a desire to have good tools well cared for. The same idea prompted the set-up of the exhibit at the fair.



Farm Shop Exhibit at Delhi

Supervised Practice

Teaching Cooperative Marketing Through Projects

LAWRENCE LAMB, Instructor of Vocational Agriculture, Worland, Wyoming

FOR their projects in Vocational Agriculture, six Future Farmer boys at Worland, Wyoming, decided upon Great Northern beans, one of the leading cash crops of the community. These beans are handled for the most part by the Big Horn Basin Marketing Association and have been so handled since they were first grown here some years ago. This Association was one of the those which the Federal Farm Board found to be walking upon its own legs in easy fashion.

Thinking that there might be an opportunity to teach some co-operative marketing by actual participation, Mr. Lawrence Lamb, the Vocational Agriculture teacher, conceived the idea of having each boy become a member of the co-operative with his bean project.

The boys themselves liked the idea and asked to be admitted to the Association in just the same manner as any other farmer would be taken in. Their request was granted by the manager and the board of directors of the co-operative. Accordingly the boys and their teacher were invited to the annual Bean Growers banquet. That was in the early spring of 1930. At the banquet the boys signed up their bean acreage as did everyone else who wishes to market their beans thru the association during the 1930 season.

This meant, several things from an instructional viewpoint. First: The boys were to get their own check for their beans. The projects would really belong to the boys. Second: The boys were to get actual experience in co-operative marketing membership. Third: The local department of Vocational Agriculture and its instructor were definitely tied up with the adult farm program of the community. Fourth: It meant that financing the projects would be no problem since the association would furnish the seed and take its value out of the crop.

These "co-operative" beans of the Chief Washakie Future Farmers had a fair season for growth and harvest. Shortly after school started in September the boys were bringing in reports of their yields. Within a few more days they were proudly showing their checks for the first payment on their beans. This amounted to $3.25 per 100 pounds. These boys were on a partnership with Dad and actually getting some wonderful training in the business side of farming. They were figuring rents, threshing bills, and labor charges. To see these boys and their two and three hundred dollar checks was to realize that here were some projects that were vital, with no smack of make-believe or of Santa Claus.

Now the Big Horn Basin Bean Growers operate on a pool basis. That means that the boys may receive additional payments for their beans, depending on the price which the association gets for its remaining beans. So these lads will know what a pool is by spring, and will be already to go right ahead raising beans and being members of the co-operative.

As results of this enterprise there appear at present the following values: 1. A group of real honest-to-God projects. 2. A real knowledge of co-operative marketing by the boys. 3. A recognition on the part of community leaders that the High School Vocational Agriculture Department is really doing something for its basic and only industry, agriculture. 4. A desire upon the part of the boys to continue their project program and their Vocational Agriculture course in the High School.

Early in 1931 there will be another Bean Growers banquet and some of the Future Farmers and their sponsors will be there among the farmers of the county. And anytime that the Association and the High School Agricultural Department can work together for the cause of agriculture they are apt to do it.

Altho only 6 out of 30 boys had these bean projects, yet the benefits carried over to the entire group in many ways. The 6 boys had 22 acres of beans indicating that the enterprise was of sufficient scope to give the thing a fair trial.

Success factors in an enterprise of co-operative marketing of project products such as this one appear to be:

1. A strong co-op in which the parents and boys have faith and confidence.
2. Interest and willingness on the part of the co-op manager and board of directors to "play the game" with the boys and their teacher.
3. Production by the boys of a staple product. This was no experiment.
4. A sound project agreement between the boy and his dad in each case. The fact that the boy is getting the check makes it imperative that there be an understanding as to whether the boy pays cash rent, share rent or whether he is getting the whole of the crop. The boy should pay the usual rent.

REQUIREMENTS OF A SUCCESSFUL TEACHER

A teacher, to measure up to all the demands, must have the learning of a college president, the consecration of a clergyman, the executive talents of a financier, the humility of a deacon, and the craftiness of a politician. He must be an angel for temper, a demon for discipline, a chameleon for adaptation, a diplomat for tact, an optimist for hope, and a hero for courage. He should have the wisdom of a serpent and the gentleness of a dove, the grace of God, the patience of Job, and the perseverance of the devil.—H. O. Hutchinson.

One Farm Magazine's Attitude Toward Vocational Agriculture

THE following excerpt from an editorial in the *Progressive Farmer* is typical of editorials which have appeared in all five editions of this magazine, entitled "Our Service to Vocational Agriculture":

The 1929 state fairs have become history. What stands out vividly in your memory as you recall them? In ours it is the exhibits and the showmanship of the junior farmers, a few years ago practically unheard of in state fair competition. Future farmers and 4-H club members are revolutionizing our fairs and are setting a fast pace that is raising the quality of our exhibits at a surprisingly rapid rate. May we not expect a similar reaction on our farming industry when these same boys and girls become the farmers of tomorrow? Somehow it paints a wonderful picture on the horizon for America's greatest industry in the few short years just ahead.

How can we serve this new generation of farmers best? As we report their progress, co-operate with their leaders, attend their camps and meetings, and note with pride their accomplishments, continually in our minds, the question arises—how can we best serve this great group with its far-reaching influence in the farming industry? This question will continue to arise in our minds. Answers will come but the question will probably always remain only partially answered. We welcome your answers, your suggestions, and your criticism at all times as to how we can serve you better.

It should not be amiss to call your attention to a few definite services we are rendering vocational agriculture at this season of the year when another school term is just under way:

1. We maintain a regular vocational department edited by the supervisors of vocational agriculture of the states covered by each separate edition. Prof. F. G. Burd, Frankfort, Kentucky, and Prof. D. M. Clements, Nashville, Tennessee, conduct a regular department in our Kentucky-Tennessee Edition during the school year.

2. It has just been decided to send a binder to every vocational teacher in the South each year to keep together in convenient form the 52 copies of the current year. At the end of each six months, a semi-annual index of all articles will be mailed to go with this binder. All articles under different headings such as sheep, beef cattle, and so forth, during the previous six months will be indexed by pages. It offers a teacher

or student the opportunity of digging into any farm subject in a tremendously comprehensive way at a maximum saving of time. This is a new service just started which we believe will become of increasing value as the teachers and students avail themselves of it.

3. All over the South, The Progressive Farmer is used by advanced students in agriculture in vocational schools to supplement their textbook work. With the establishment of our new office in Louisville and our new Kentucky-Tennessee Edition, the number of vocational schools using The Progressive Farmer in Kentucky and Tennessee has increased in a most satisfactory way. One of the primary objects of this editorial is to urge those vocational teachers who have not yet used our paper in their agricultural classes to give it a trial. We are confident the results will be most pleasing.

A Long-Time Supervised Farm Practice Program

NELSON C. SMITH
Waverly, Illinois

THERE are three levels of teaching; namely (1) the informational level, which when reached, has put an individual in possession of facts he formerly did not know; (2) the appreciational level, which when reached has developed in an individual some appreciation he did not have; and (3) the doing level, which when reached has developed in an individual abilities to actually do something he could not previously do.

The teaching in vocational education in agriculture should be on the doing level. In this phase of public education the development of doing abilities (manipulative and thinking) are most essential.

It is a generally accepted fact that one learns to do only as he practices. In order to make a boy's practices in agriculture purposeful and functioning in the occupation in which he is fitting himself to engage, it appears that each boy in vocational agriculture needs to formulate a long-time supervised farm practice program.

The best instruction a teacher of vocational agriculture can give to the boys in his classes is that which closely correlates with the supervised practice program of each boy in his classes.

It should be clearly understood that a supervised farm practice program includes all the projects a boy is carrying and proposes to carry and such other supplementary farm practice work essential to the development of those doing abilities which will best fit the boy for his future type of farming.

Because there must be a close relation between a teacher's yearly teaching plans and a boy's long-time supervised program, I am showing in this article yearly teaching plans of two years' work in my agricultural curriculum.

In order to make clear what a very brief outline of a boy's long-time supervised practice would look like, I am giving an illustration of one which would correlate with the agricultural curriculum previously mentioned.

In order to be of most value the teacher of vocational agriculture must develop some sort of a checking system on the supplementary farm practice work. The idea illustrated above is merely suggestive.

THE VOCATIONAL AGRICULTURE CURRICULUM

First Year's Work		Second Year's Work	
Enterprises		*Enterprises*	
1. Swine production	6 weeks	1. Corn production	3 weeks
2. Beef production	5 weeks	2. Wheat production	2 weeks
3. Poultry production	4 weeks	3. Soybean production	2 weeks
4. Dairy production	4 weeks	4. Oats production	2 weeks
5. Sheep production	2 weeks	5. Red clover production	2 weeks
6. Horse management	2 weeks	6. Sweet clover production	1 week
7. Forage pasture: Red clover pasture, Bluegrass pasture, Sweet clover pasture	2 weeks	7. Alfalfa production	2 weeks
8. Individual instruction	7 weeks	8. Potato production	2 weeks
9. Reviews	1 week	9. Vegetable gardening	2 weeks
10. Quizzes	2 weeks	10. Orcharding	2 weeks
		11. Individual instruction	14 weeks
		12. Reviews	1 week
		13. Quizzes	1 week
Total weeks	36	Total weeks	36

WILSON BRYANT'S SUPERVISED PRACTICE PROGRAM

First Year	Second Year	Third Year
Producing 4 litters of pigs from 2 gilts (Major project.) (Starting my herd.)	Producing 6 litters of pigs from 2 sows and 1 gilt. (Continuation project.) (Showing my herd.)	Producing 8 litters of pigs from 3 sows and 1 gilt. (Continuation project.) (Maintaining and showing my herd.)
Hatching and raising 300 baby chicks (Major project.) (Member of Chix Club.)	Keeping a laying flock of 100 pullets. (Continuation Project.)	Keeping a laying flock of 200 pullets (Continuation project.)
Starting a 5-acre hog pasture rotation system. (Contributory project.)	5-acre hog pasture. (Continuation project.)	5-acre hog pasture. (Continuation project.)
	10 acres of corn (Contributory and cash crop project.)	10 acres of corn. (Continuation project.)
Supplementary farm practice work not included in project program but correlated with Agriculture I.	Supplementary farm practice work not included in project program but correlated with Agriculture II.	Supplementary farm practice work not included in project program but correlated with Agriculture III.

WILSON BRYANT'S PROGRAM OF SUPPLEMENTARY FARM PRACTICE*

In Connection With Agriculture I	In Connection With Agriculture II
Poultry 1. Culling the home flock. 2. Selecting a breeding pen. 3. Maintaining sanitary conditions. 4. Keeping poultry records. 5. And so on.	*Wheat* 1. Selecting good seed wheat 2. Treating seed for smut. 3. Calculating commercial fertilizer for home use. 4. Mixing fertilizers. 5. And so on.
Beef 1. Castrating home calves. 2. Fitting steers for show. 3. Showing steers. 4. Trimming hoofs. 5. And so on.	*Corn* 1. Selecting 10 bushels of seed corn from home crop 2. Testing father's seed corn. 3. Keeping cost records on corn. 4. Treating seed corn. 5. And so on.
Dairying 1. Keeping record on home herd. 2. Testing milk of each cow. 3. Testing cream sold. 4. Cauterizing calves. 5. And so on.	*Soybeans* 1. Inoculating father's seed. 2. Computing fertilizer mixture for crop. 3. Determining variety to plant. 4. Selecting good seed. 5. And so on.
Sheep 1. Shearing home flock. 2. Docking home lambs. 3. Castrating home lambs. 4. And so on.	*Sweet Clover* 1. Testing soil for crop. 2. Spreading limestone. 3. Selecting good seed. 4. And so on.

*Very incomplete and merely suggestive.

A SUGGESTIVE CHECKING SYSTEM FOR THE SUPPLEMENTARY FARM PRACTICE WORK

Enterprise—Poultry Production

Jobs / Boys	George Brown	Bill Jones	Wilson Bryant	Jack Burrows	Frank Jones	William Jackson	And so on
1. Culling the home flock	A	A B–C					
2. Keeping records on home flock	A B						
3. Keeping quarters sanitary							
4. Formulated an economical ration							
5. Making a self-feeder							
6. And so on							

A—Started job. B—Work being done satisfactorily. C—Work carried to successful completion.

Future Farmers of America

F. F. A. Makes Constitutional Changes

W. A. ROSS, Executive Secretary

W. A. Ross

SEVERAL amendments to the National Constitution of the Future Farmers of America were made at the Third Annual Congress held in Kansas City in November. In every instance the proposed changes were made by a unanimous vote of the delegates present. These amendments were based upon experiences during the past three years in conducting the affairs of this organization. A brief discussion of the amendments may be of interest to those concerned with the development of the F. F. A.

The changes made in Article III, Sections B, C and D establish the fact that the F. F. A. is unquestionably a male organization and that only boys and men are entitled to any kind of membership in the organization. The change in Article III, Section C, also makes it clear that a boy after retaining his active membership for three years does not drop out of the F. F. A. but passes on into Associate membership. In other words, once an F. F. A. always an F. F. A. is the idea in membership.

The manner of advancement of an active F. F. A. member from one grade of membership to the other has caused some difficulty in nominating boys for the American Farmer degree during the past two years. In some instances boys have been made State Farmers as late in the year as the month previous to the Annual Congress at which they were nominated as American Farmers. This has tended toward very rapid advancement with certain individuals as well as late entries for the American Farmer degree. The amendment to Article IV, Section E, makes it plain that any candidate for the American Farmer degree must hold his State Farmer degree in the school year previous to the Annual Congress at which his name is proposed. This change clears up a rather troublesome situation which the Board of Trustees have been facing in the past.

The change made in the National officers of the F. F. A. definitely provides that the Chief of the Agricultural Education Service of the Federal Board for Vocational Education shall act as the National Adviser of the F. F. A. which insures the agricultural education program and the F. F. A. program being in harmony. The office of the Executive Secretary-Treasurer was divided and the duties of the Executive Secretary are discharged by an officer on the staff of the Agricultural Education Service of the Federal Board for Vocational Education. The office of treasurer calls for a second person. These changes are incorporated in Article V, Section A and in By-Law 1, Section D.

Another very interesting change made was the addition to the Constitution of By-Law VI which established the National Advisory Council of the F. F. A. The establishment of this Council, which is to serve in an advisory capacity only to the Board of Trustees on administrative leadership, safeguards official F. F. A. action and is a new provision for guidance, assistance and protection to the Future Farmers of America.

A complete list of the Amendments and By-Laws adopted by the delegates to the Third Annual Congress of F. F. A. is included; they appear in the Revised F. F. A. Manual.

CONSTITUTION

Article III, Section B, Active Membership, is amended to read as follows:

"Any male student who is regularly enrolled in an all-day, day-unit or part-time vocational agriculture class is entitled to active membership in the Future Farmers of America organization upon receiving a majority vote of the members present at any chapter meeting. A member may retain his active membership for three years after completing his systematic instruction in vocational agriculture."

Article III, Section C, Associate Membership, is amended to read as follows:

"After three years active membership following the completion of his systematic instruction in vocational agriculture a boy automatically becomes an associate member of the Future Farmers of America. Any former male student of vocational agriculture may be elected to associate membership upon receiving a majority vote of the members present at any chapter meeting."

Article III, Section D, Honorary Membership, is amended to read as follows:

"Instructors, school principals, superintendents, business men, farmers and other men who are helping to advance vocational agriculture may be elected to honorary membership by a majority vote of the members present at any meeting."

Article IV, Section E, Item I, Membership Grades and Privileges, is amended to read as follows:

"Hold the degree of 'State Farmer' in the school year previous to the National Congress at which nominated for the degree of American Farmer."

Article V, Section A, Officers, has been amended to read as follows:

"The officers of the National Organization shall be a president, four vice-presidents (one from each administrative region of the United States), secretary, executive secretary, treasurer, and and adviser. These officers shall perform the usual duties of their respective offices and shall constitute the Board of Trustees of the national organization. They shall have full authority and control over the organization, subject only to such regulations and by-laws as may be adopted by the National Organization of Future Farmers of America. The officers of the National Organization shall be elected annually by a majority vote of the delegates present at the National Congress of Future Farmers of America, except that the adviser shall be the Chief of the Agricultural Education Service of the Federal Board for Vocational Education and the executive-secretary shall be a member of that service. Each state is entitled to two delegates to the National Convention."

BY-LAWS

By-Law I, Section D, has been amended to read as follows:

"D. The Executive Secretary.—The Executive Secretary shall act as agent of the National Board of Trustees. He shall issue charters to states when ordered to do so by the Board and shall act as publicity agent for the organization. He shall keep the permanent records of the organization and have records of the membership and progress of the organization. He shall receive all reports from the State organizations and inform the National Board of Trustees of any proceedings which appear to be in conflict with the provisions of the National Constitution. He shall submit a budget of proposed expenditures to the Board of Trustees annually. He shall be in charge of arrangements for the annual meeting of the Congress and may perform such other duties as may pertain to the furtherance of the organization."

By-Law I, Section D, has been added to read as follows:

"D I. The Treasurer.—The Treasurer shall act as custodian of the funds of the organization, collect State dues, keep an accurate record of all receipts, bank deposits and disbursements, making an annual report on such matters to the National Congress and such other supplementary reports as may be directed by the Board of Trustees. He shall pay out of the Treasury such funds as are ordered paid by the Board of Trustees on checks countersigned by the Presi-

dent. He shall furnish the auditing committee with an annual bank statement signed by an officer of the bank in which the funds are kept. He shall furnish a suitable bond, the amount to be fixed by the Board of Trustees."

By-Law VI, has been added to read as follows:

"VI, National Advisory Council.—There shall be a National Advisory Council of the Future Farmers of America composed of four State Supervisors of Agricultural Education (one from each administrative region elected annually at the Regional Conference) and the National Adviser who shall act as Chairman of the Council.

"This Advisory Council shall cooperate with and serve in an advisory capacity to the Board of Trustees of the Future Farmers of America on the administrative direction and leadership of the organization.

"The Advisory Council shall possess the power of approval at all times of the actions of the Board of Trustees and delegates to the National Congress."

F. F. A. Work in Arkansas

R. B. SMITH
State Adviser

ARKANSAS has 81 qualified local chapters of the Future Farmers of America and 24 other chapters that are trying to meet the requirements necessary for approval.

The first chapters were organized in this state three years ago, but the largest number began work last year. Due to the high school consolidation movement now going on within the state, a number of chapters have been forced to suspend, because they have been united to larger high schools to which the vocational work has been shifted. It is hoped that within the near future larger and stronger organizations can be developed in these new centers.

The winning of the Star American Farmer prize by Carlton Patton last fall was a great stimulation to the Future Farmer work in the state. Carlton's achievement was given large circulation and is proving a source of much inspiration to many other boys. Carlton is now in full charge of an 80-acre farm on which he has a fine rotation and a well balanced diversified farming program. He started as a regular student and while attending high school, making high grades, his first year's project labor income was $251.50.

The second year he made $1,293.48, and the third year when he won his American Farmer degree, his income was $1,182.12. Carlton used $300 of his prize money to buy dairy cows which he added to his herd. The other $700 has been placed in the bank to be used for the last two years of his college work. At the present time, he is running his dairy and bringing milk to town each morning as he comes to attend college.

Members of the F. F. A. Chapter, Salisbury, Mo., winner of the $300 second prize in The Farm Journal National Chapter Contest

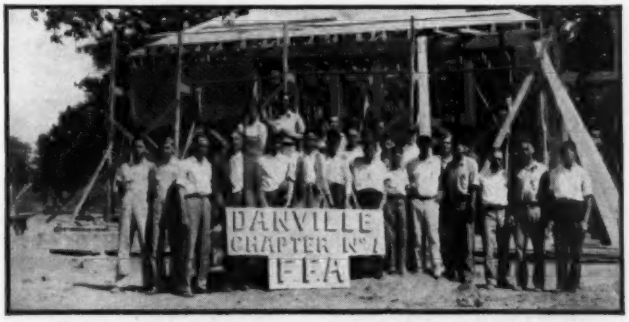
Carlton plans to qualify to become a Smith-Hughes teacher. His plan was approved by the Dean of the State Agricultural College, the State Supervisor of Vocational Agriculture, and his local teacher. He wrote, "I assure you I will try to use this money not only to help myself but to qualify myself to help others." In spite of the serious drought that has affected his county this year, Carlton is faithfully carrying out his plan.

The Advisory Council of the Arkansas Future Farmers conducted a State Fair Encampment and F. F. A. Convention at the Arkansas State Fair this fall. The program consisted of four parts as follows:

1. Future Farmers of Arkansas State Fair and Encampment—Continuous, October 5–11.
2. Smith-Hughes Vocational Education Exhibit—October 6–11.
3. State Future Farmers of America Convention—October 7–8. Meeting of Executive Council on October 6.
4. State Future Farmer Vocational Agriculture Contests.
    1. State Corn Judging Contest —Tuesday afternoon, October 7.
    2. State Dairy Judging Contest —Wednesday afternoon, October 8.
    3. State Poultry Judging Contest — Thursday afternoon, October 9.
    4. State General Livestock Judging Contest—Thursday afternoon, October 9.
    5. Future Farmer of Arkansas Dairy Show and Milking Derby (Continuous October 6–11, at Dairy Barn).
    6. Future Farmer of America National and State Public Speaking Contest. All day Thursday, October 9.

Big F. F. A. Parade Wednesday night, 7:15 p. m., October 8.

The Advisory Council had planned to start on a campaign for securing a state camp site. This, however, was abandoned on account of the serious drought thruout the state. In place of the campaign the Future Farmer boys are putting on a "Live at Home Garden" campaign. Several thousand posters have been printed which read, "This Place Has a 'Live at Home Garden' signed F. F. A."



Members of F. F. A. Chapter No. 1, Danville, Arkansas, winner of the $500 first prize in The Farm Journal National Chapter Contest

Promoting Thrift

ARTHUR P. WILLIAMS
Federal Agent, North Atlantic Region

ONE of the purposes of the Future Farmers of America organization is to promote thrift. A number of devices for accomplishing this purpose are being used by Future Farmer chapters, but before discussing them let us try to get a notion of what thrift is.

The dictionary defines thrift as "a thriving condition; prosperity; success; good husbandry; economic management; vigorous growth, as of a plant." Theodore Roosevelt expressed it as "wise spending" or investment as contrasted with "pinch-penny" saving or miserliness.

The whole theory of thrift lies in the accumulation of working capital, whether it be money, land, livestock, equipment, education, or spiritual values. "To him that hath shall be given." The person who consumes directly all that he produces is not thrifty. What a wonderful example of thrift we have in nature in the production of seed to insure the continuation of growth of future generations!

Following are some effective devices which have been used in promoting thrift on the part of members of Future Farmer Chapters:

1. Establishment in farming goal.
2. Financial goal.
3. Checking account.
4. Savings account or thrift bank.

5. Record of earnings.
6. Record of investments.
7. Statement of net worth.

1. *Establishment in farming.* This goal should be constantly before Future Farmers. It should be the basis of each boy's long-time program of supervised farm practice and should help him to visualize concretely his progressive status as a farmer from year to year in terms of ownership, managerial responsibility, and skill in farming. There is no valid reason why any Future Farmer should not set a goal of this kind even tho we recognize the probability that it will be modified from time to time as his program develops. On the other hand, such a goal, if developed in a practical way, constitutes one of the greatest incentives to progressive achievement and success.

2. *Financial goal.* This, of course, is closely related to the goal of establishment in farming, but it is of value because of the emphasis which it places on tangible assets as evidence of efficiency and thrifty management.

3. *Checking account.* In project work as in any other business, there are current expenses which have to be met. Sometimes the current income is more than sufficient to meet these expenses; other times it is not. The thrifty Future Farmer should establish the habit of keeping a reasonable surplus in a checking account for current expenditures, so that his business may not suffer for lack of needed supplies on time.

4. *Savings account or thrift bank.* The accumulation of working capital is usually dependent upon some plan of regular and systematic saving.

James J. Hill, the great railroad magnate, felt so strongly about this matter that he said, "If you want to know whether you are destined to be a success or not, you can easily find out. The test is simple and infallible. Are you able to save money? If not, drop out of the race. You will lose. You may not think it, but you will lose as sure as fate for the seed of success is not in you if you cannot save."

A number of Future Farmer chapters either have organized thrift banks or have used such banks where they have already been established in the schools. In any case the important factor is to get the members to form the habit of putting aside a certain minimum amount each week or month at interest until it is needed for investment in some project enterprise which offers a larger return. This plan should be followed even tho at times it is good business to borrow working capital. In fact, it will usually be easier to secure a loan if the applicant has demonstrated his ability to save.

5. *Record of earnings.* It is essential for developing thrift that an accurate record of earnings be kept. This is the basis for all budgeting of expenditures. It is also a measure of ability and efficiency and serves in many cases in place of collateral for securing a loan.

6. *Record of investments.* This is a necessary record to show how a Future Farmer is progressing toward his farming and financial goal. It should, of course, include both the money he has earned and money which he may have secured from other sources. In any case the source of the money should be indicated in the record, also the nature of the investment, whether in land, livestock, equipment, stocks, bonds or insurance. It is interesting to note also that in several of the American Farmer reports this year the amount which the boy had invested in his own education was given.

7. *Statement of net worth.* This statement is designed to give a comprehensive view of a Future Farmer's program in thrift at any given time. It includes the amounts in his checking account and savings account and the value of his investments in farming or other securities less any outstanding indebtedness. Such statements are not only a source of pride and satisfaction to the members but may be used also as a basis for friendly rivalry and as an incentive to greater achievement.

The setting of the farming and financial goals and the keeping of the thrift records should be an integral part of Future Farmer chapter activities. The teacher as local adviser should welcome this opportunity for motivating the boys to form thrift habits and to enlarge their supervised practice programs.

Methods of Leading

(Continued from page 124)

a select group, but a combination of instruction and teaching can be used effectively with a group of widely varying abilities. Participation by all can often be accomplished thru the tactful use of questions.

Foundation teaching material should be obtained from a survey while on promotional visits. Attendance can be kept up by giving the group what they want, allowing them to govern the trend of the course but making certain that conclusions are advanced before the close of a meeting. Deviations on matters of timely interest are permissable when tactfully handled. Instruction should be practical. Success of evening classes can be determined by the improved practices resulting from the instruction.

As an outgrowth of my dairy feeding courses, 46 farmers have just completed their eighth month of dairy record keeping on 450 cows. The milk samples are tested monthly and the farmer does his own work. About one hundred dairymen are feeding better rations. The soils courses resulted in an increased use of 195 tons of fertilizer and about 200 tons of lime. The results have extended vocational agricultural influence because men who have not attended classes are copying the methods used by their neighbors who attended evening school.

Teaching Boys to Think

(Continued from page 122)

The fifth step in the thinking process is to evaluate the factors. Let us assume that this is done as follows: The choice will be made between Leghorns, Minorcas and Anconas. Factors (2) and (3) will be eliminated because they carry equal values for all three breeds.

The Minorcas are least adapted to the climate. The choice therefore seems to be between Leghorns and Anconas, but the Leghorn pullets can be purchased for $50 less than the Ancona pullets.

This weighing of the factors leads to *the sixth step* in the thinking process. All evidence seems to indicate that the Leghorns are the most suitable birds and the boy decides to select Leghorns.

The seventh step in the process will be a comparison of the cost records of his birds with those of other people in the community who have, for the same productive purpose, Minorcas and Anconas. (The fact should be remembered that the discussion was made brief to illustrate a procedure and not to solve the problem).

It should be remembered that the purpose of the procedure followed in constructive thinking, which has been discussed, is primarily to give training to learners in constructive thinking and to develop correct thinking habits. One who has had considerable experience in solving practical problems has acquired certain intuitions or mental short-cuts in the solution of such problems, and, as a result, can reach conclusions much more readily and perhaps more effectively than can an inexperienced learner whose thinking has never been directed.

In addition to constructive thinking which functions so vitally in planning and in management, there is also a form of thinking that involves intelligence in the direct application of information and directions to the operations of a job. The mental activity occurring in such thinking is in the nature of sense judgments and involves what is commonly called "job intelligence." This kind of thinking is developed as the instructor observes the way in which the learner goes about doing a job and as he assists him to more intelligently use his head during the process.

County-Wide Evening School

(Continued from page 125)

the improvements on the Fravel and Ball farms are typical of those being put into effect at the homes of practically all members. As shown by the table an average of nearly five improved practices per member were completed last year.

The Knox County teachers give much of the credit for the success of the plan to the co-operation of County Agent S. L. Anderson and Club Agent G. G. Everhart who have helped in arranging the annual county meetings, who secured the finances for the awards, who have aided in securing the help of extension specialists, and who have given valuable service in scoring members and determining winners. The five vocational agriculture teachers, the county superintendent of schools and the two county extension agents meet once a month to discuss evening school work and other phases of the county program.

100 PERCENTERS

THE following states appear to have 100 percent of their teachers as subscribers to *Agricultural Education*. Some even show total subscriptions considerably greater than the number of vocational agriculture teachers.

Ohio	Michigan
Virginia	Mississippi
Indiana	South Carolina
New Jersey	Minnesota
Alabama	Nebraska
Delaware	Wyoming
Georgia	Oklahoma
Iowa	Nevada
Kansas	Hawaii

Missouri

HOW ABOUT YOU?

"Money is defined as that which takes you anywhere but heaven, and gets you anything but happiness."